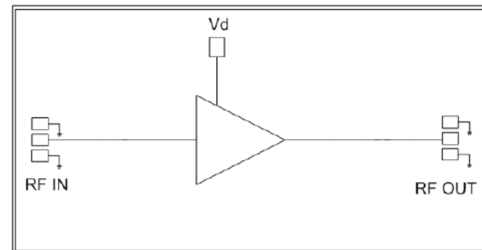
GaAs MMIC
Low Noise Amplifier
0.01-3.5GHz

Features

- Singles Basing Voltage (Self Biased)
- Frequency: 0.01-3.5GHz
- Small Signal Gain: 30.5dB
- Noise Figure: 0.75 dB typ.
- P1dB: 18dBm
- Power Supply: +5V/70mA
- Input/Output: 50Ω
- Die Size: 1.25 x 1.25 x 0.1 mm

Functional Block Diagram



Typical Applications

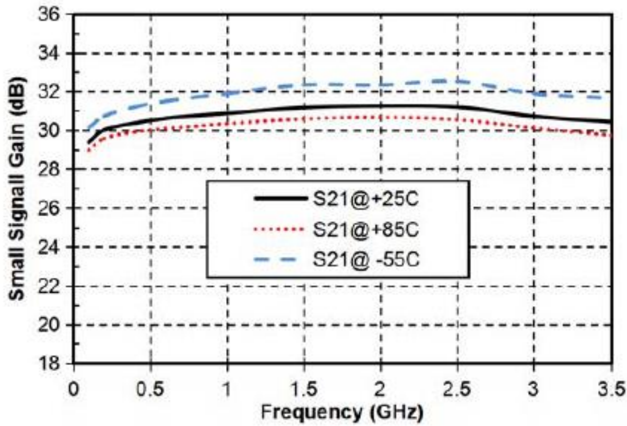
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

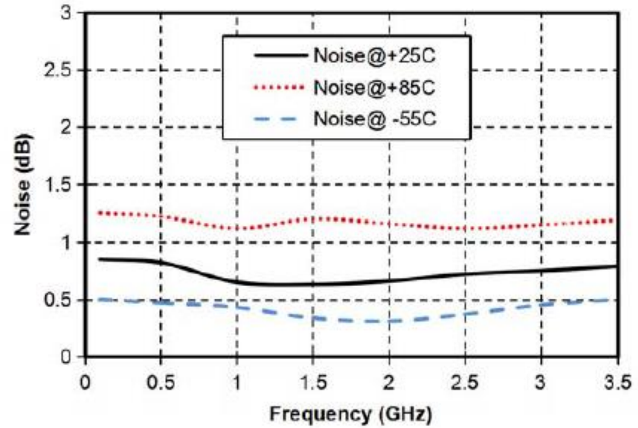
TA = +25ºC, Vd = +5V

Parameters	Min.	Typ.	Max.	Units
Frequency		0.01-3.5		GHz
Small Signal Gain	29	30.5		dB
Gain Flatness		±0.5		dB
Noise Figure	-	0.6	-	dB
Output 1dB Compression (P1dB)	-	18	-	dBm
Saturated Output Power (Psat)	-	19	-	dBm
Input Return Loss	10	15	-	dB
Output Return Loss	14	18	-	dB
Static current		70		mA

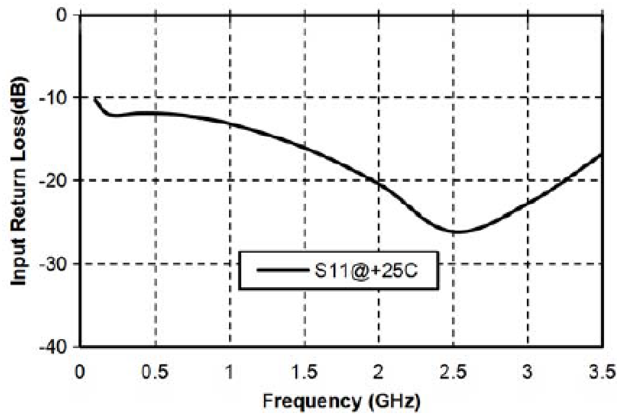
Gain vs. Frequency



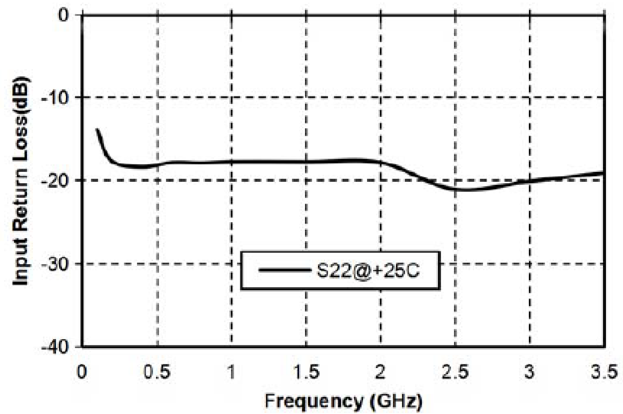
Noise Figure vs. Frequency



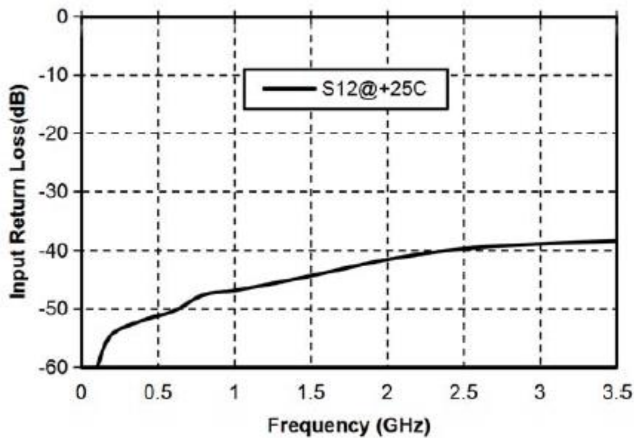
Input Return Loss vs. Frequency



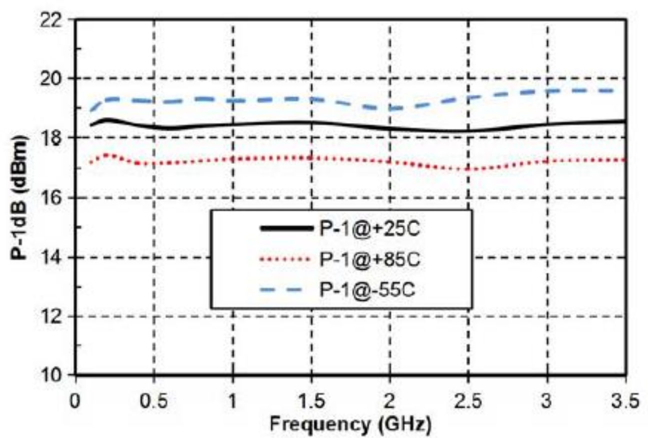
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

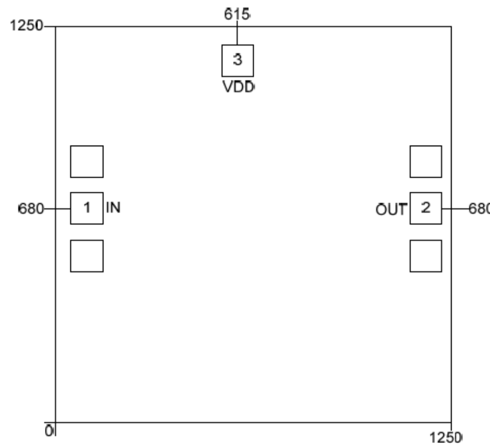


P1dB vs. Frequency



Outline Drawing:

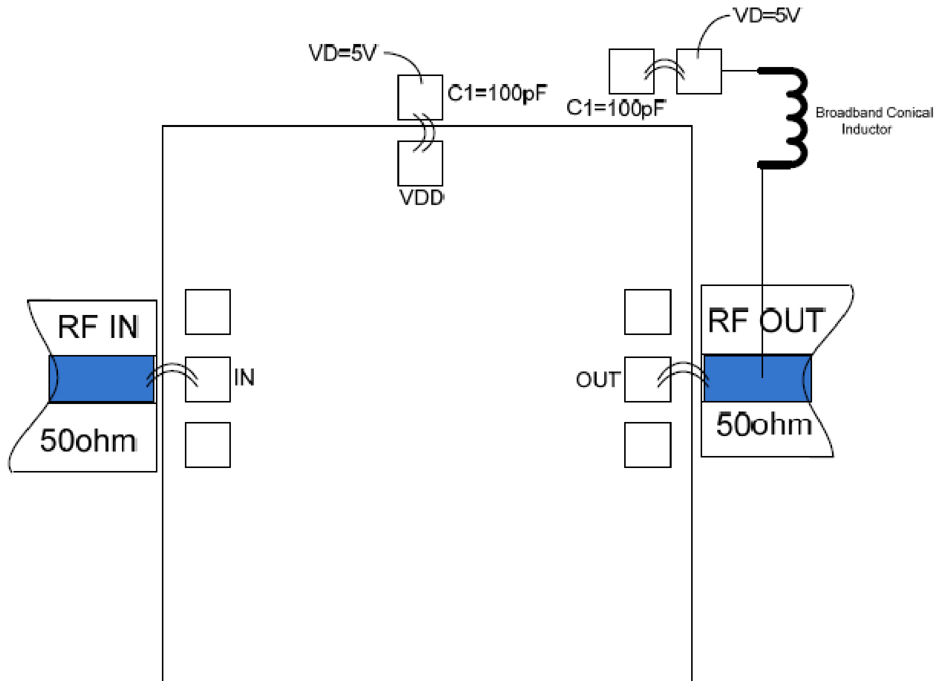
All Dimensions in μm



Pad Description

Pad	Function	Description
1	RF IN	RF signal input terminal, DC blocking capacitor required.
2	RF OUT, VDD	RF signal output terminal, DC blocking capacitor required. *Amplifier drain bias, external 100pF bypass capacitor required, external 56nH~200nH choke inductor required.
3	VDD	Amplifier drain bias; external 100pF bypass capacitor required.
Die bottom	GND	Die bottom must be connected to RF/DC ground.

Assembly Drawing



Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

Maximum Ratings:
1. Maximum drain voltage: +7V
2. Maximum input power: +20dBm
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃